

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of treating a cervical intraepithelial neoplasia (CIN) in a human, the method comprising:

identifying a human ~~an individual~~ as being less than 25-30 years of age ~~or younger~~ and as having a CIN; and

administering to the human ~~individual~~ an effective amount of a pharmaceutical composition comprising a nucleic acid comprising a nucleotide sequence that encodes a hybrid polypeptide comprising ~~an epitope of a naturally occurring human papilloma virus (HPV) protein~~

(i) at least one of the following segments of human papilloma virus (HPV) strain 16 E6:

AMFQDPQERPRKLPQLCTEL,

LLRREVYDFAFRDLCIVYRDGNPY, or

KISEYRHYCYSLYGTTLEQQYNK;

(ii) at least one of the following segments of HPV strain 16 E7:

TLHEYMLDLQPETTDLYSY,

QAEPDRAHYNIVTF, or

LLMGTLGIVCPICSQKP;

(iii) at least one of the following segments of HPV strain 18 E6:

RRPYKL PDLCTELNTSLQDIEITCVYCKTVLEL TEVFEFAFK, or

SVYGD TLEKLTNTGLYNLLIRCLRCQK; and

(iv) at least one of the following segments of HPV strain 18 E7:

KATLQDIVLHLEPQNEIPV,

HTMLCMCKCEARI, or

AFQQLFLNTLSFVCPWC.

2-8. (Canceled)

9. (Currently Amended) The method of claim 1, wherein the CIN is cervical intraepithelial neoplasia 1 (CIN1) ~~or low grade squamous intraepithelial lesion (LSIL).~~

10. (Currently Amended) The method of claim 1, wherein the CIN is cervical intraepithelial neoplasia 2 (CIN2), cervical intraepithelial neoplasia 3 (CIN3), or cervical intraepithelial neoplasia 2/3 (CIN2/3), ~~or high grade squamous intraepithelial lesion (HSIL).~~

11-42. (Canceled)

43. (Previously Presented) The method of claim 1, wherein the pharmaceutical composition comprises a microparticle.

44-72. (Canceled)

73. (New) The method of claim 1, wherein the hybrid polypeptide comprises the segments AMFQDPQERPRKLPQLCTEL, LLRREYDFAFRDLCIVYRDGNPY, KISEYRHYCYSLYGTTLEQQYNK, TLHEYMLDLQPETTDLYSY, QAEPDRAHYNIVTF, LLMGTLGIVCPICSQKP, RRPYKLPDLCTELNTSLQDIEITCVYCKTVLELTEVFEFAFK, SVYGDITLEKLTNTGLYNLLIRCLRCQK, KATLQDIVLHLEPQNEIPV, HTMLCMCKCEARI, and AFQQFLNLTLSFVCPWC.

74. (New) The method of claim 1, wherein the hybrid polypeptide does not contain a sequence identical to the sequence of either full length, intact E6 or full length, intact E7 protein from HPV strain 16 or 18.

75. (New) The method of claim 1, wherein the hybrid polypeptide comprises a signal sequence.

76. (New) The method of claim 75, wherein the signal sequence is the HLA-DR $\alpha$  leader sequence (MAISGVPVLGFFIIAVLMSAQESWA).

77. (New) The method of claim 1, wherein the hybrid polypeptide comprises the amino acid sequence

AMFQDPQERPRKLPQLCTELLRLREVDFAFRDLCIVYRDGNPYKISEYRHYCYSLYGT  
TLEQQYNKTLHEYMLDLQPETTDLYSYQAEPDRAHYNIVTFLLMGTLGIVCPICSQKPR  
RPYKLPDLCTELNTSLQDIEITCVYCKTVLELTFEFAFKSVYGDITLEKLTNTGLYNLLI  
RCLRCQKKATLQDIVLHLEPQNEIPVHTMLCMCKCEARIAFQQLFLNTLSFVCPWC.

78. (New) The method of claim 1, wherein the hybrid polypeptide comprises the amino acid sequence

MAISGVPVLGFFIIAVLMSAQESWAAMFQDPQERPRKLPQLCTELLRLREVDFAFRDL  
CIVYRDGNPYKISEYRHYCYSLYGTLEQQYNKTLHEYMLDLQPETTDLYSYQAEPDRA  
HYNIVTFLLMGTLGIVCPICSQKPRRPYKLPDLCTELNTSLQDIEITCVYCKTVLELTFE  
FAFKSVYGDITLEKLTNTGLYNLLIRCLRCQKKATLQDIVLHLEPQNEIPVHTMLCMCK  
CEARIAFQQLFLNTLSFVCPWC.

79. (New) The method of claim 1, wherein the hybrid polypeptide consists of the amino acid sequence

MAISGVPVLGFFIIAVLMSAQESWAAMFQDPQERPRKLPQLCTELLRLREVDFAFRDL  
CIVYRDGNPYKISEYRHYCYSLYGTLEQQYNKTLHEYMLDLQPETTDLYSYQAEPDRA  
HYNIVTFLLMGTLGIVCPICSQKPRRPYKLPDLCTELNTSLQDIEITCVYCKTVLELTFE  
FAFKSVYGDITLEKLTNTGLYNLLIRCLRCQKKATLQDIVLHLEPQNEIPVHTMLCMCK  
CEARIAFQQLFLNTLSFVCPWC.

80. (New) The method of claim 1, wherein the nucleic acid comprises a plasmid vector.

81. (New) The method of claim 1, wherein the nucleic acid comprises a viral vector.

82. (New) The method of claim 1, wherein the pharmaceutical composition comprises a microparticle having the nucleic acid encapsulated therein.

83. (New) The method of claim 82, wherein the microparticle comprises a copolymer of poly-lactide-*co*-glycolide.

84. (New) The method of claim 83, wherein the microparticle is less than 10 microns in diameter.

85. (New) The method of claim 1, wherein the pharmaceutical composition comprises an adjuvant.

86. (New) The method of claim 1, wherein the pharmaceutical composition is administered via injection.

87. (New) The method of claim 86, wherein the injection is intramuscular, subcutaneous, or intracervical.

88. (New) A method of treating a CIN in a human, the method comprising:  
identifying a human as being less than 25 years of age and as having a CIN; and  
administering to the human an effective amount of a pharmaceutical composition comprising a microparticle comprising a plasmid vector and a polymeric matrix, wherein the

plasmid vector comprises a nucleotide sequence that encodes a polypeptide comprising a signal sequence and the amino acid sequence

AMFQDPQERPRKLPQLCTELLRLREYDFAFRDLCIVYRDGNPYKISEYRHYCYS  
LYGTTLEQQYNKTLHEYMLDLQPETTDLYSYQAEPDRAHYNIVTFLLMGTLGIVCPICS  
QKPRRPYKLPDLCTELNTSLQDIEITCVYCKTVLELTEVFEEFAFKSVYGDTLEKLTNTGL  
YNLLIRCLRCQKKATLQDIVLHLEPQNEIPVHTMLCMCKCEARIAFQQLFLNTLSFVCP  
WC.

89. (New) The method of claim 88, wherein the CIN is CIN1.
90. (New) The method of claim 88, wherein the CIN is CIN2, CIN3, or CIN2/3.
91. (New) The method of claim 88, wherein the polymeric matrix comprises a copolymer of poly-lactide-*co*-glycolide.
92. (New) The method of claim 89, wherein the polymeric matrix comprises a copolymer of poly-lactide-*co*-glycolide.
93. (New) The method of claim 90, wherein the polymeric matrix comprises a copolymer of poly-lactide-*co*-glycolide.
94. (New) The method of claim 88, wherein the pharmaceutical composition is administered via injection.
95. (New) The method of claim 94, wherein the injection is intramuscular, subcutaneous, or intracervical.

96. (New) The method of claim 89, wherein the pharmaceutical composition is administered via injection.

97. (New) The method of claim 96, wherein the injection is intramuscular, subcutaneous, or intracervical.

98. (New) The method of claim 90, wherein the pharmaceutical composition is administered via injection.

99. (New) The method of claim 98, wherein the injection is intramuscular, subcutaneous, or intracervical.

100. (New) A method of treating a CIN in a human, the method comprising:  
identifying a human as being less than 25 years of age and as having a CIN; and  
administering to the human an effective amount of a pharmaceutical composition comprising a microparticle comprising a plasmid vector and a polymeric matrix, wherein the plasmid vector comprises a nucleotide sequence that encodes a polypeptide comprising the amino acid sequence

MAISGVPVLGFFIIAVLMSAQESWAAMFQDPQERPRKLPQLCTELLRRREVYDFA  
FRDLCIVYRDGNPYKISEYRHYCYSLYGTTLEQQYNKTLHEYMLDLQPETTDLYSYQAE  
PDRAHYNIVTFLLMGTLGIVCPICSQKPRRPYKLPDLCTELNTSLQDIEITCVYCKTVLEL  
TEVFEFAFKSVYGDITLEKLTNTGLYNLLIRCLRCQKKATLQDIVLHLEPQNEIPVHTMLC  
MCCKCEARIAFQQLFLNTLSFVCPWC.

101. (New) The method of claim 100, wherein the CIN is CIN1.

102. (New) The method of claim 100, wherein the CIN is CIN2, CIN3, or CIN2/3.

103. (New) The method of claim 100, the polymeric matrix comprises a copolymer of poly-lactide-*co*-glycolide.

104. (New) The method of claim 100, wherein the pharmaceutical composition is administered via injection.

105. (New) The method of claim 104, wherein the injection is intramuscular, subcutaneous, or intracervical.

106. (New) A method of treating a CIN in a human, the method comprising:  
identifying a human as being less than 25 years of age and as having a CIN; and  
administering to the human an effective amount of a pharmaceutical composition comprising a microparticle comprising a plasmid vector and a polymeric matrix, wherein the plasmid vector comprises a nucleotide sequence that encodes a polypeptide consisting of the amino acid sequence

MAISGVPVLGFFIIAVLMSAQESWAAMFQDPQERPRKLPQLCTELLRRREVYDFA  
FRDLCIVYRDGNPYKISEYRHYCYSLYGTTLEQQYNKTLHEYMLDLQPETTDLYSYQAE  
PDRAHYNIVTFLLMGTLGIVCPICSQKPRRPYKLPDLCTELNTSLQDIEITCVYCKTVLEL  
TEVFEFAFKSVYGDITLEKLTNTGLYNLLIRCLRCQKKATLQDIVLHLEPQNEIPVHTMLC  
MCKCEARIAFQQLFLNTLSFVCPWC.

107. (New) The method of claim 106, wherein the CIN is CIN1.

108. (New) The method of claim 106, wherein the CIN is CIN2, CIN3, or CIN2/3.

109. (New) The method of claim 106, the polymeric matrix comprises a copolymer of poly-lactide-*co*-glycolide.

110. (New) The method of claim 106, wherein the pharmaceutical composition is administered via injection.

111. (New) The method of claim 110, wherein the injection is intramuscular, subcutaneous, or intracervical.

112. (New) The method of claim 107, the polymeric matrix comprises a copolymer of poly-lactide-*co*-glycolide.

113. (New) The method of claim 112, wherein the pharmaceutical composition is administered via injection.

114. (New) The method of claim 113, wherein the injection is intramuscular, subcutaneous, or intracervical.

115. (New) The method of claim 108, the polymeric matrix comprises a copolymer of poly-lactide-*co*-glycolide.

116. (New) The method of claim 115, wherein the pharmaceutical composition is administered via injection.

117. (New) The method of claim 116, wherein the injection is intramuscular, subcutaneous, or intracervical.